

CLAIM AMENDMENTS

1 1. (original) A pallet orienting apparatus for
2 orienting planar pallets in a return lane of a live storage system,
3 comprising:
4 A pallet receiving means for receiving a plurality of pallets; and
5 means for mounting said pallet receiving means for
6 movement thereof between a pallet-receiving position in which a
7 number of pallets oriented in substantially upright planes may be
8 placed in the pallet receiving means to form a row of pallets; and
9 a pallet-delivery position wherein the pallets are presented as a
10 stack of pallets with each pallet in a generally horizontal plane.

1 2. (original) The pallet orienting apparatus defined in
2 claim 1, wherein the pallet-receiving means is dimensioned to
3 receive two or more rows of pallets oriented in substantially
4 upright planes when in the pallet-receiving position, and to
5 present a corresponding number of stacks of pallets with each
6 pallet in a generally horizontal plane when in the pallet-delivery
7 position.

1 3. (original) The pallet orienting apparatus defined in
2 claim 1 wherein the pallet-receiving means is mounted to a
3 supporting structure for pivoting movement, and the movement
4 between the pallet-receiving position and the pallet-delivery
5 position comprises rotation about a horizontal axis.

1 4. (original) The pallet orienting apparatus defined in
2 claim 1 wherein said pallet-receiving means is mounted to a
3 supporting structure by a mechanism which permits the pallet-
4 receiving means to move relative to the supporting structure
5 between its pallet-receiving and pallet-delivery positions.

1 5. (original) The pallet orienting apparatus defined in
~~2~~ claim 4 wherein the movement between the pallet-receiving position
3 and pallet-delivery position is a combination of both rotation and
4 translational movement relative to the supporting structure.

1 6. (original) The pallet orienting apparatus defined in
2 claim 1, further comprising stop means for limiting the movement of
3 the pallet-receiving means.

1 7. (original) The pallet orienting apparatus defined in
2 claim 1 wherein the pallet-receiving means is provided with a
3 position sensor to detect when the pallet-receiving means is in the
4 pallet-receiving position.

1 8. (original) The pallet orienting apparatus defined in
2 claim 1 wherein the pallet-receiving means is provided with a
3 position sensor to detect when the pallet-receiving means is in the
4 pallet-delivery position.

1 9. (original) The pallet orienting apparatus defined in
2 claim 1, further comprising a drive means for moving the pallet-
3 receiving means between the pallet-receiving position and the
4 pallet-delivery position.

1 10. (original) The pallet orienting apparatus defined
2 in claim 9, further comprising a control system for said drive
3 means and provided with detector means for detecting the presence
4 of a pallet in the pallet-receiving means, the control system being
5 operable to place the pallet-receiving means in its pallet-
6 receiving position when no pallet is detected.

1 11. (original) The pallet orienting apparatus defined
2 in claim 10, wherein the control system is operable to place the
3 pallet-receiving means in its pallet-delivery position when a
4 predetermined number of pallets is detected.

1 12. (original) The pallet orienting apparatus defined
2 in claim 9 wherein said drive means is manually operated.

1 13. (original) The pallet orienting apparatus defined
2 in claim 9 wherein said drive means is operated to place the
3 pallet-receiving means in its pallet-delivery position by moving a
4 guard into a position to prevent access to the apparatus.

1 14. (original) The pallet orienting apparatus defined
2 in claim 13 wherein said drive means is operated to place the
3 pallet-receiving means in its pallet-delivery position by moving a
4 guard into a position to permit access to the apparatus.

1 15. (original) The pallet orienting apparatus defined
2 in claim 1 wherein the pallet-receiving means is releasably
3 retainable in the pallet-receiving position by a first latching
4 arrangement.

1 16. (original) The pallet orienting apparatus defined
2 in claim 15 wherein the first latching arrangement comprises a
3 latching element provided on the supporting structure and a detent
4 on the pallet-receiving means.

1 17. (currently amended) The pallet orienting apparatus
2 defined in claim ~~1~~ 15 wherein the pallet-receiving means is
3 releasably retainable in the pallet-receiving position by a second
4 latching arrangement.

1 18. (original) The pallet orienting apparatus defined
2 in claim 17 wherein the second latching arrangement comprises a
3 latching element provided on the supporting structure and a detent
4 on the pallet-receiving means.

1 19. (original) The pallet orienting apparatus defined
2 in claim 18 wherein said pallet-receiving means is releasably
3 retainable in the pallet-receiving position by a first latching
4 arrangement and wherein the first and second latching arrangements
5 each comprise a respective latching element provided on the
6 supporting structure and a common detent provided on the pallet-
7 receiving means.

A2 Claim 20, cancelled.

1 21. (original) The pallet orienting apparatus defined
2 in claim 3 wherein the position of the pivot axis is so selected
3 that, when the pallet-receiving means is empty the pallet receiving
4 means tends to rotate under its self-weight towards the pallet-
5 receiving position and when the pallet-receiving means is loaded
6 with pallets, the position of the combined center of gravity of the
7 pallet receiving means and pallets causes the pallet-receiving
8 means to rotate towards the pallet-delivery position.

1 22. (original) The pallet orienting apparatus defined
2 in claim 21 wherein counterbalancing weights or springs are
3 provided to ensure that the pallet-receiving means rotates to its
4 respective loading and unloading positions when empty and filled.

1 23. (original) The pallet orienting apparatus defined
2 in claim 1, further comprising friction dampers on the pallet-
3 receiving means to control motion thereof.

1 24. (original) The pallet orienting apparatus defined
2 in claim 18 wherein the pallet-receiving means comprises a base
3 frame for engaging an edge of a pallet in the pallet-receiving
4 position, and a back frame arranged perpendicular to the base fram
5 for engaging an undersurface of a pallet in the pallet delivery
6 position.

1 25. (original) The pallet orienting apparatus defined
2 in claim 24 wherein the base frame and back frame are formed as an
As 3 open framework structure.

1 26. (original) The pallet orienting apparatus defined
2 in claim 24 wherein the base frame and back frame are formed as
3 panels.

1 27. (original) The pallet orienting apparatus defined
2 in claim 24 wherein the base frame and back frame are formed as
3 solid panels.

1 28. (original) The pallet orienting apparatus defined
2 in claim 24 wherein the base frame and back frame are formed as a
3 load-bearing framework with a covering of mesh panels.

1 29. (original) A pallet live storage system comprising
2 a supply lane for load d pallets and a r turn lane for mpty

3 pallets, wherein the return lane is provided with pallet orienting
4 apparatus comprising pallet-receiving means movable between a
5 pallet-receiving position in which a number of pallets oriented in
6 substantially upright planes may be placed in the receiving means
7 to form a row of pallets, and a pallet-delivery position wherein
8 the pallets are presented as a stack of pallets with each pallet in
9 a generally horizontal plane.

A2 1 30. (original) The pallet live storage system defined
2 in claim 29 wherein the pallet-receiving means is adapted to
3 receive two or more rows of pallets oriented in substantially
4 upright planes when in the pallet-receiving position, and to
5 present a corresponding number of stacks of pallets with each
6 pallet in a generally horizontal plane when in the pallet-delivery
7 position.

1 31. (original) The pallet live storage system defined
2 in claim 29 wherein the pallet-delivery position, the height of the
3 pallet-receiving means is so arranged that the lowermost pallet in
4 the or each stack is presented at the same level as the entry ends
5 of the supply lanes.

1 32. (original) The pallet live storage system defined
2 in claim 29 wherein ramps are provided in the return lane.

1 33. (original) The pallet live storage system defined
2 in claim 32 wherein the ramps have a low-friction inclined surfac .

1 34. (original) The pallet live storage system defined
2 in claim 32 wherein the ramps have an inclined surface formed by
3 the upper run of a belt extending between two pulleys.

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2 35. (original) The pallet live storage system defined
3 in claim 32 wherein the ramps are mounted to the pallet-receiving
means and move therewith.

1 36. (original) The pallet live storage system defined
2 in claim 29 wherein the supply line is provided with pallet erector
3 means for moving an empty pallet from a generally horizontal
4 position to a generally vertical orientation.

1 37. (original) The pallet live storage system defined
2 in claim 36 wherein the pallet erector means comprises an erector
3 arm for engaging the underside of an empty pallet, and drive means
4 for raising the arm.

~~Claim 38, cancelled.~~

~~Claim 39, cancelled.~~

~~Claim 40, cancelled.~~

~~Claim 41, cancelled.~~